

**Patent Claims**

1. A system for locking and adjusting the tilt of two parts of a vehicle seat, such as a seat part and a backrest part, with respect to each other, comprising two fittings (B1, B2) which can be fitted on each side of the vehicle seat and are connected to each other via a transmission rod (R) acting as an adjusting means, the transmission rod (R) engaging axially in each case in a fastening opening (O) of a structural element (BS) of a fitting (B1, B2) and being held in a profiled inner contour (K), characterized by an additional molded profile part (F) which can be inserted into the fastening opening (O) and can be fastened therein and has the profiled inner contour (K) for holding the transmission rod (R) in a fastening opening (OF) of the molded profile part (F) in a form-fitting manner.

2. The system as claimed in claim 1, characterized in that the molded profile part (F) can be fastened in the fastening opening (O) of the structural element (BS) in a frictional and form-fitting manner, in particular by being pressed in.

3. The system as claimed in claim 1 or 2, characterized in that the fastening opening (O) of the structural element (BS) has a profiled structure on its periphery, in particular a fine toothing (Z) arranged on its inner circumference.

4. The system as claimed in one of claims 1 to 3, characterized in that the molded profile part (F) is designed as a plastic bushing.

5. The system as claimed in one of claims 1 to 4, characterized in that the molded profile part (F) consists of reinforced plastic, in particular of glass fiber reinforced polyamide, such as PA 6.6. GF with 15%

- 15 -

by weight of glass fibers.

6. The system as claimed in one of claims 1 to 5, characterized in that the molded profile part (F) is positioned in its installation state in the fastening opening (O) of the structural element (BS) in such a manner that the profiled inner contour (K) of the molded profile part (F) is arranged in a defined position with reference to the fitting (B1, B2).

10

7. The system as claimed in claim 6, characterized in that the defined position is defined by one or more distances of a marking point (P) of the profiled inner contour (K) from one or more reference points of the fitting (B1, B2), such as axes (X1, X2, X3, X4, X5, X6) of openings present in the fitting.

15

8. The system as claimed in one of claims 1 to 7, characterized in that the profiled inner contour (K7) of the molded profile part (F) is formed radially symmetrical to a central axis or to the longitudinal axis (X-X) of the transmission rod (R).

20

9. The system as claimed in claim 8, characterized in that a central angle, rotation about which recurring basic figures in the profiled inner contour (K) of the molded profile part (F) can be brought into overlap, is 30°, 60° or 90°.

25

10. The system as claimed in one of claims 1 to 7, characterized in that the profiled inner contour (K) of the molded profile part (F) is formed asymmetrically with reference to a central axis or the longitudinal axis (X-X) of the transmission rod (R).

30

35

11. The system as claimed in one of claims 1 to 10, characterized in that the transmission rod (R), upon

- 16 -

its axial engagement in the profiled inner contour (K) of the shaped profile part (F), has a maximum play of 4° during a rotation movement about its axis (X-X).

5 12. The system as claimed in one of claims 1 to 11, characterized in that the structural element (BS) of the fitting (B1, B2) in which the transmission rod (R) is fastened is a pivotable clamping element, the fitting (B1, B2) comprising a first fitting part (1)  
10 and a locking element which can be fixed in certain positions with respect to the first fitting part (1) under the action of a spring and is fastened to a second fitting part (2) which can be fixed in a manner such that it can be changed in its tilt in relation to  
15 the first fitting part (1), it being possible for the fixing of the locking element on the first fitting part (1) to be cancelled counter to the force of the spring by means of the clamping element which acts on the fixing element.

20

13. A method for assembling a system for locking and adjusting the tilt of two components of a vehicle seat, such as a seat part and a backrest part, with respect to each other, the system comprising two fittings (B1, B2) which can be fitted on each side of the vehicle  
25 seat and are connected to each other via a transmission rod (R) acting as an adjusting means, the transmission rod (R) engaging axially in each case in a fastening opening (O) of a structural element (BS) of a fitting (B1, B2) and being held in a profiled inner contour (K), characterized in that, in a preassembly step, an additional molded profile part (F), which has the profiled inner contour (K) for holding the transmission  
30 rod (R) in a fastening opening (OF) of the molded profile part (F) in a form-fitting manner, is inserted into the fastening opening (O) of the structural element (BS) of the fitting (B1, B2), which is  
35

- 17 -

preferably in a locking position, and is fastened therein, after which, in a main assembly step, the transmission rod (R) is inserted into the fastening opening (OF) of the molded profile part (F).

5

14. The method as claimed in claim 13, characterized in that the molded profile part (F) can be fastened in the fastening opening (O) of the structural element (BS) in a frictional and form-fitting manner, in particular by being pressed in.

10

15. The method as claimed in claim 13 or 14, characterized in that the profiled inner contour (K) of the molded profile part (F) is positioned during the preassembly in the fastening opening (O) of the structural element (BS) in such a manner that the molded profile part (F) takes up a defined position with reference to the fitting (B1, B2):

15

16. The method as claimed in claim 15, characterized in that the defined position is defined by one or more distances of a marking point (P) of the profiled inner contour (K) from one or more reference points of the fitting (B1, B2), such as axes (X1, X2, X3, X4, X5, X6) of holes present in the fitting (B1, B2).

20

25

17. The method as claimed in one of claims 13 to 16, characterized in that, during the main assembly, the transmission rod (R) is inserted at its ends into the two fittings (B1, B2) and the fittings (B1, B2) are then fitted to the component of the vehicle seat.

30

18. The method as claimed in one of the claims, during the main installation first of all only a preassembled fitting (B1, B2) is connected to one end of the transmission rod (R), then both fittings (B1, B2) - one fitting (B2, B1) without a molded profile part (F)

35

- 18 -

inserted - is fastened to the component of the vehicle seat and subsequently the molded profile part (F) is inserted into the fitting (B2, B1) without the molded profile part (F) and the other end of the transmission  
5 rod (R) is inserted into the molded profile part (F), the transmission rod (R) serving as an assembly aid.

19. The method as claimed in one of claims 13, characterized in that preassembled unit of preferably  
10 locked fitting (B1, B2) and molded profile part (F) is subjected to a painting operation, in particular a cathodic dip painting operation, at a temperature of 180°C to 200°C.